MSc-Information Science Vs MSc-Information Science and Technology: *The possible programs for better Information-People with Business Interaction*

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Abstract: Information Science is an important interdisciplinary domain responsible for collection, selection, processing, organization and management of information. Information Science is dedicated to information infrastructure building, designing and development. Information Science is an Applied Science domain through it has some community interaction and community development perspective. Information Science has an interaction with its stakeholders like people, industry and corporates. Information Science is as an interdisciplinary domain available in western countries. This paper is talks about Information Science and Information Science and Technology and their possible and probable curriculum differences. Paper also tries to illustrate some proposed courses of MSc-IST.

Keywords: Information, Information Science, Information Science and Technology, Information and Knowledge Management, I-Programmes, I-Schools, Emerging courses, Syllabus, MSc-IST, MSc-Information Science

Introduction

Information Science is an emerging field of Information and Computing. Though initially Information Science was originated; as Information Studies and Documentation Science. Due to global impact of Information Technology and Computing Science, Information Science was emerged which is primarily lies on Information Studies and side by side computing or Information Technology [1, 7]. Information Science as a name and domain emerged from Library Science schools in many countries and universities. Information Science as an academic field offered from Information Science department in most of the US based universities since 1980's. The increasing trend of Information Technology and Computing influenced the entire arena of Information Infrastructure building; thus some new domains of Information Science have been arrived [2, 8]. Out of these, IST is most important which is put importance on interaction between Information-Technology-Computing. The main differences between IT / Computing with Information Science and Technology (IST) is that, Information Science has less interaction with technological gradients and not deals with Technological Designing and Technology development. Whereas IT and Computing is mainly involves for technological development, specification, modification and inside in to the tools rather than its application to the user or community or business [3].
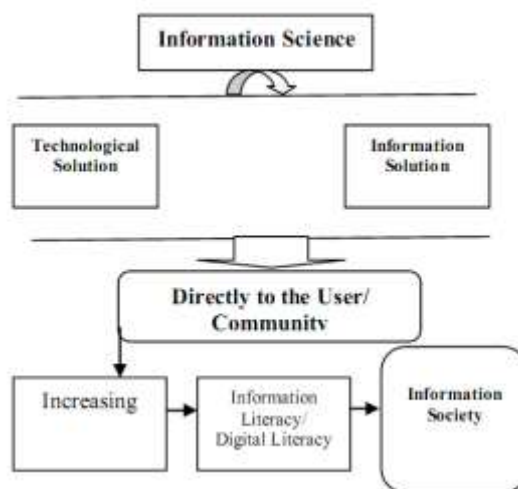

Fig: 1: Showing role Information Science as Community Developer through Tech and Info solution

Objective:

The main objective of this study is includes, but not limited to as follows:

- To learn about the Information Science and Information Science and Technology (IST).
- To find out origin and development of Information Science.
- To learn about some popular gradients on Information Science.
- To learn about Information Science and Technology (IST) and its possible gradients.

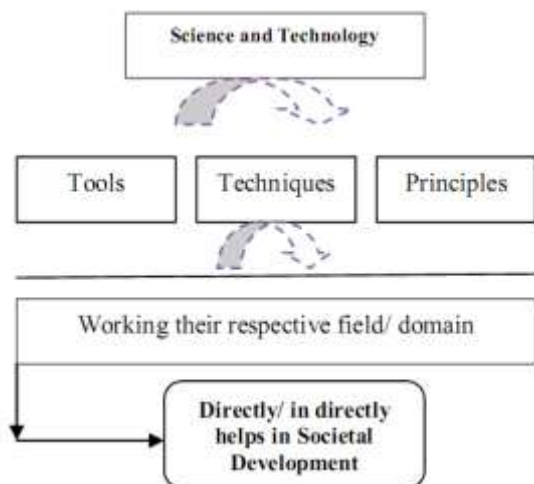- To design a model MSc- Information Science and Technology in Indian scenario.

Fig: 2-Showing the Science and Technology principles which is also supports IST domain

Information Science Vs Information Science and Technology: the business development agent :

Information Science and Information Science and Technology (IST) are actually more or less same. Both the subjects are deals with Information and similar facet. Information activities like collection, selection, organization, processing and dissemination considered as most vital task of Information Science. Information Science originated during 1960-70's after the emergence of the term Information in USA. The increasing shape and role of information lead the development of Information Studies as a field. But the advancement of technologies in the information activities leads information as full-fledged domain and thus a full-fledged subject, Information Science has been come as Applied Science domain [4,5]. That time many universities change their nomenclature from Information Studies to Information Science. Though, Information Studies still treated as information field. The Information Science and Technology (IST) is actually a domain deals with information and knowledge facet as like Information Science; but the main differences in between two is, Information Science and Technology (IST) is more close to technology and computing. It is uses several tools, techniques and technologies for Information Management and Dissemination. However, we no need to confuse with IST and Information and Communication Technology (ICT) or Computer Science (CS). Because IST is just an Information domain and takes the help of Technologies; as like Mathematics and Computing (MSc) Degree, which is just a Mathematics Degree with its relationship with Computing and allied field. It is not doing two MSc; one on Mathematics and another on Computing in one Degree programme. Other hand ICT/CS are mainly deals with computing, IT systems building, designing and similar core technological/ activities. Thus, many

people think that, it is just a new nomenclature of Information Science enriched with Technology/ engineering fundamentals [6, 9].

MSc- Information Science:

Information Science as an academic programme mainly comes as MSc degree. Though degree on BSc/MSc/MPhil/PhD is also there in university programme around the world. There is a huge difference in the curriculum of MSc- Information Science of UK based universities with the USA based universities. The normal UK based MSc- Information Science is actually mainly deals with manual or traditional knowledge organization tools like cataloguing, classification, indexing, abstracting, documentation work and obviously digitalization work as per time need. Though; some IT techniques and tools are also included in the curriculum of MSc- Information Science. Another matter is MSc-Information Science is one year in UK while US Universities are followed 2 year MS-IS programme and it is closely related with Computing and Information Technology gradients which has social touch. Here most of the gradients are computing based which is close to information activities. Like, Computer Networking is there to communicate or information sharing, web development is for information collection and large distribution. But MSc-IS basically avoided the paper of core mathematical computing, electronics, programme or software engineering [10, 11]. The basic course of MSc-IS are includes as follows, in most of the standard universities available in India:

BIT Deemed University: - 1.Foundation of Information Science 2.Theory & Practices of Knowledge Organization and Information Processing 3. Fuzzy Logic & Neural Networks Applications 4 .Internet And Web Technology 5. Data Structures 6.Data Base Management System 7.Operating Systems 8.Computer Communication Networks 9.Management Of Information System & Centers10.Information Psychology &Information Architecture 11.Research Methodology &Quantitative Techniques 12.Digital Library And Multimedia And Other 2 Electives

Madras University:1.Evolution of information science 2.information sources 3.Knowledge organization 4.Introduction to information technology 5.Soft skill 6.Management of information centre Information service 7.Information processing-classification 8.Information and Communication technology 9.Information storage and retrieval 10.Information processing-cataloguing 11.Research methods 12.Preservation of information material 13.Knowledge management 14.Marketing of information 15.Digital libraries And electives, internship.

WB University Of Technology:1. Mathematics for information science 2.Data structure with c/c++ 3.Computer organization 4.Business communication

5.Library and information science 6.Object technology 7.Operating system and system programming 8.Software engineering 9.Information theory 10.Soft computing 11.Digital image processing 12.Values & ethics in profession 13e-commerce

List of some Applied Science Domain
✓ BSc/MSc— CST (Home Science).
✓ BSc/MSc— CST (Nutrition Science).
✓ BSc/MSc— CST (Food Science).
✓ BSc/MSc— CST (Textile Science).
✓ BSc/MSc— CST (Renewal Energy).
✓ BSc/MSc— CST (Agricultural).
✓ BSc/MSc— CST (Environmental Science)
✓ BSc/MSc— CST (Community Computing).
✓ BSc/MSc— CST (Social Computing).
✓ BSc/MSc— CST (Community Informatics).
✓ BSc/MSc— CST (Information Science).

Fig: 3- Figure showing some Applied Science subjects which are also run and based on Information Science and Technology Principles, i.e. Community development through Science and Technology

MSc-Information Science and Technology (IST): Domain and Challenges:

Still the nomenclature of Information Science and Technology (IST) is not yet popular in academic community. As far as domain is concerned it is one of the largest domain related to information related with computing [10, 12]. Information Science and Technology (IST) and degree with MSc needed several challenges to meet; these are:

- It is essential to include several knowledge gradients which helps in Information-Technology-Community Interaction. Thus, the gradients should come from several places; including Information Technology, Information Science, Cognitive Science and Psychology, Management Science, Social Science and so on. It should not be only restricted with IT or Information Science.
- Building IST schools need several interdisciplinary skills, various computational machine and traditional information processing system/ tools; thus proper and adequate funding need to provide from the initial level.
- Cooperation and collaboration among the related departments of information and technology is

tough enough. Without common interest and ambition still it is too tough.

- Running MSc-IST course need proper understanding of the subjects; it should not be confused with IT/Computing or Information Studies; thus proper awareness among the faculty members and academician, general student and public is tough task.
- Placement is vital for any kind of professional course, as an interdisciplinary professional courses also, MSc-IST needs placement with several organizations which are deals with information, computing and information management. Thus apart from IT jobs (like-DBA, Network Administrator, System Administrator, Web Developer) a platform should be provided to the other off bit position like-Information Scientist, CIO, Chief Technology Officer, Information Officer, Information Manager, Information Expert, Information Analyst, Virtualization Expert, Knowledge Organization Expert and others. Thus for all-round development of the programme and fulfillment of IST nomenclature versatile job should be offered. Here it is essential that IST not only deals with Software matters; thus position like Software Developer, Software Tester, Programmer should be avoided during campus placement or designing of the curriculum [9, 13-16].
- Establishing initiatives from institute level, academician level and governmental level is very much challenging; as it is new discipline and need to meet several parameters.

MSc- Information Science (IS) Vs MSc- Information Science and Technology (IST): similarities and dissimilarities:

In MSc-Information Science and MSc-Information Science and Technology (IST) several things should be common and similar as both deals with information activities; though some differences should be there for fulfilling the ultimate aim of design and development of MSc-IST. Now let check some similarities between MSc-IS and MSc-IST.

- ✓ Both the programmes are centrally characteristics with information and thus various aspects of information, including information management, knowledge organization in traditional manner for information foundation is more or less same.
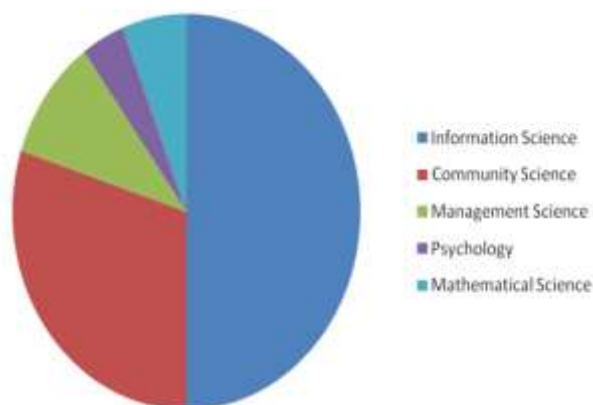
Fig: 4: Showing a proposed model MSc-IST curriculum should included with these ration of allied knowledge gradients

✓ Both the programmes are interdisciplinary in nature and thus associated with several disciplines which are deals with information and technology. Both the programme need departmental close relationship and these departments are –IT, Computer Science, Management, Cognitive Science, Social Science and so on;

✓ The main aim of MSc- Information Science and MSc-IST product is same, Information Collection, selection, organization, processing, management and dissemination is the ultimate aim of both these programme. Thus, Information Management is the main task of MSc-IS and MSc-IST. They just use some different tools to handle information.

Regarding the dissimilarities between Information Science and Information Science and Technology (IST) the following point may be analyzed:

✓ MSc-Information Science programme may only included knowledge organization tool in its curriculum; which includes indexing, abstracting, cataloguing, classification (both manual and automated) for information activities ; staring from information collection and dissemination; whereas MSc-IST obviously involves these tools along with computational information mechanism, such as DBMS, Networking Technologies, Web Technologies, Business Intelligence and so on.

✓ MSc-Information Science and Technology (IST) needs higher level of cooperation with other interdisciplinary departments than MSc-IS course of study. In Information Science and Technology (IST) engagement with some technology department such as Mechanical Engineering, Electrical Engineering, Communication Engineering is highly appreciated for better and intelligent information solution.

✓ Faculty members and researchers of Information Science and Technology (IST) field needs much skill than Information Science field; as IST is believes in technological information solutions (obviously not ignoring manual KO tools); areas such as Cloud Computing, Green Computing, Usability Engineering/HCI is newer in IST.

✓ Still perception about IST and IS, is confusing among the people and even academic people think that IST is synonymous with IT/ICT/CS and Information Systems. Though, MSc-IST programme is deals with integration of Information Science with Technology for better Information activities.

Findings:
• Information Science and Information Science and Technology (IST) both are interdisciplinary domain deals with information and computing mechanism.

• Information Science and Technology (IST) is a new field believes in interaction between information-technology-people.

• Information Science and Technology (IST) for bigger than IT and computing; as it also deals with information.

• MSc-Information Science and Technology (IST) and other IST programme is available in some I-Schools located western countries.

Suggestion:
• Information Science and Technology (IST) with BSc/MSc/BE/ME may be stored in Science and Technology colleges.
• Conventional Information Science, Information Studies, Information Systems department may integrate each other and offer various IST programme.
• Initial awareness among the Governmental knowledge agency, student and academician should be provided.

Conclusion:
Information Science and Technology (IST) is deals with two important domain of the century – Information and Technology. Virtually this is the only possible and robust programme which not only deals

with information aspects but also technological aspects and solution. These two things are very much important for societal development. Information Divide and Digital Divide many ways may be remove from the IST programme and IST research. Ultimately it helps in better connection between the 'Information-Technology and People/Community; directly.

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